R&D 11-9 CY 6 OF 6 CYS

JOINT MESSAGEFORM

SECURITY CLASSIFICATION [redacted]

SPACE BELOW RESERVED FOR COMMUNICATION CENTER [redacted]

LXXVIII

PRECEDENCE	TYPE MSG (Check)			ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
	BOOK	MULTI	SINGLE			
ACTION IMMEDIATE						
INFO PRIORITY		X	AF			

FROM:

6595th AEROSPACETESTING VANDENBERG AFB CALIF

TO:

SSD LOS ANGELES, CALIFORNIA

INFO: DOUGLAS AIRCRAFT CO., VANDENBERG AFB, CALIF (MESSENGER)

LOCKHEED MISSILE & SPACE CO., VANDENBERG AFB, CALIF (MSGR)

BELL TELEPHONE LABORATORY, VANDENBERG AFB, CALIF (MESSENGER)

SECRET VWZE -63-4-132. SSD FOR SSZD. DAC FOR STEVE ABELES. LMSC FOR MR. GAVLAK (62-01). BTL FOR BOB PRESKITT. SUBJECT: EIGHT HOUR FLASH LAUNCH REPORT. THIS MSG IN NINE PARTS. PART I. SUMMARY. A VEHICLE CONSISTING OF LV-2A BOOSTER NO. 395 AND SS-01A ORBITAL STAGE NO. 1804 WAS LAUNCHED ON THE FIRST ATTEMPT FROM VANDENBERG AFB COMPLEX 75-3, PAD 4, AT 1623:43.55 PDT ON 27 APR 1964. THE PRIMARY LAUNCH OBJECTIVE, TO PLACE THE SS-01A SATELLITE WITH PAYLOAD INTO A SPECIFIED ORBIT WAS ACHIEVED. TELEMETRY AND GROUND GUIDANCE DATA INDICATED THAT A NEAR NOMINAL TRAJECTORY WAS FOLLOWED THROUGH INJECTION. INFORMATION FROM THE FIRST PASS ACQUISITION INDICATED THE ATTAINMENT OF A NEAR NOMINAL ORBIT AND

SPECIAL INSTRUCTIONS

VWZD 1 CY
VWG 1 CY
VWZP/LMSC 1 CY
VWZE 1 CY COME-BACK

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DATE 27 MONTH APR TIME YEAR 1964

WRITER

SYMBOL VWZE

TYPED NAME AND TITLE (Signature, if required)

ROBERT L. BEERS, LT COL, USAF

PHONE NR. 1 NR. OF PAGES 5

SECURITY CLASSIFICATION [redacted]

RELEASER

SIGNATURE

TYPED (or stamped) NAME AND TITLE

FRANCIS L. WRIGHT
MAJOR, USAF
CHIEF, THOR/AGENA PROJECTS OFFICE

DD FORM 1 MAY 55 173 REPLACES AD FORM 173, 1 OCT. 49, WHICH WILL BE USED UNTIL EXHAUSTED

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION [redacted]

FROM:

5585 AEROSPACE[redacted] AFB, CALIF

THAT THE BASIC VEHICLE SUBSYSTEMS WERE FUNCTIONING NORMALLY. VEHICLE PERFORMANCE AND SEQUENCE OF EVENTS ARE BASED ON QUICK-LOOK INFORMATION AND ARE SUBJECT TO CHANGE. PART II SEQUENCE OF EVENTS. PRELIMINARY TIMES OF SIGNIFICANT EVENTS ARE:

	ACTUAL	PREDICTED
LIFTOFF		
SYSTEM TIME	84,233.55	82,800
PDT	1623:43.55	1600:00
WEB BURNOUT OF SOLID MOTORS	27.90	27.71
THRUST TERMINATION OF SOLID MOTORS	41.45	40.71
JETTISON OF SOLID MOTORS	65.10	65.00
LV-2A STEERING INITIATED	92.44	92.00
LV-2A STEERING TERMINATED	142.60	143.39
S-1 COMMAND FOR MECO	146.14	147.39
MECO (COMMAND SHUTDOWN)	146.24	147.39
VECO 1	155.13	156.39
SEPARATION COMMAND (S-2)	159.09	160.39
SEPARATION COMPLETE	162.35	162.89
RETRO ROCKET IGNITION	164.05	165.39
SS-01A ENGINE IGNITION	167.06	168.39
SS-01A THRUST ATTAINMENT (90% Pc)	166.24	169.68
SS-01A STEERING INITIATED	174.27	183.00
SS-01A STEERING TERMINATED	347.36	353.07
SS-01A VELOCITY METER ENABLE	348.60	353.07
SS-01A ENGINE SHUTDOWN BY VELOCITY METER	407.45	408.68
VIS VERIFORT RADAR LOSS OF TRACK	405	N/A

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CRYPTO	2	[redacted]		

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FROM: 6595 AEROSPACE TRAINING WG, CALIF

	ACTUAL	PREDICTED
VIS ACQUISITION BEACON PASS	427	N/A
VIS TELEMETRY DATA PASS (LINK 1)	[redacted]	N/A
VIS TELEMETRY SIGNAL PASS (LINK 2)	452	N/A

PART III. LV-3A PERFORMANCE. ALL LV-3A SUBSYSTEMS PERFORMED ADEQUATELY FOR ATTAINMENT OF THE FLIGHT TEST OBJECTIVES. THRUST WAS NORMAL. MAIN ENGINE CUTOFF (MECO) OCCURRED AT 146.14 SEC AS PLANNED BY COMMAND GUIDANCE. PROPELLANT UTILIZATION WAS NORMAL. VIBRATIONS WERE HIGHER THAN USUAL. 18-20 CPS VIBRATIONS IN MAIN ENGINE CHAMBER PRESSURE WERE RECORDED FROM 126.45 SEC UNTIL 128.38 SEC WITH A 35 PSIA PEAK TO PEAK LEVEL AT 133.83 SEC. OSCILLATIONS IN LONGITUDINAL ACCELERATION WERE OBSERVED OF THE ORDER OF 16.5 TO 18 CPS BETWEEN 114 AND 139 SEC. MAXIMUM PEAK TO PEAK ACCELERATION WAS APPROXIMATELY 4.8 G'S. SOLID MOTOR PERFORMANCE WAS SATISFACTORY. PART IV. COMMAND GUIDANCE. PERFORMANCE OF THE COMMAND GUIDANCE SYSTEM WAS SATISFACTORY. STEERING ORDERS WERE INITIATED AT 82.44 SEC WITH PITCH DOWN AND YAW RIGHT. AFTER 4 SEC OF MODERATE STEERING CORRECTIONS VEHICLE RESPONSE WAS NORMAL. COMMAND FOR MECO (S-1) WAS TRANSMITTED AT 146.14 SEC AND COMMAND FOR SEPARATION (S-2) FOLLOWED AT 150.89 SEC. SECOND STAGE STEERING BEGAN AT 178.27 SEC AND TERMINATED AT 347.36 SEC. STEERING ORDERS WERE EXTREMELY LIGHT THROUGHOUT GUIDANCE PORTION OF THE FLIGHT. COMMAND FOR VELOCITY METER ENABLE (S-3) OCCURRED AT 348.68 SEC. QUICK-LOOK EVALUATION OF THE TRAJECTORY VECTOR AT

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SECURITY CLASSIFICATION [redacted]

FROM:

6585 AEROSPACE[illegible] VANDENBERG AFB, CALIF [redacted]

GUIDANCE TERMINATION PRODUCED THE FOLLOWING VALUES: INJECTION ALTITUDE OF 100.127 NM (NOMINAL 100.37 NM), INJECTION FLIGHT PATH ANGLE OF 5.286 MILLIRAD. (NOMINAL 18.28 MILLIRAD.) ORBITAL PERIOD OF 91.979 MIN (NOMINAL 90.86 MIN) AND ORBITAL INCLINATION ANGLE OF 72.937 DEG (90.0 DEG). PART V. SE-01A PERFORMANCE. ALL SE-01A VEHICLE SUBSYSTEMS PERFORMED ADEQUATELY DURING LAUNCH TO ACHIEVE ORBITAL INJECTION. THRUST LEVELS WERE NORMAL. BURN DURATION WAS 238.21 SEC, AS EXPECTED. ENGINE SHUTDOWN OCCURRED AS A RESULT OF VELOCITY METER COMMAND AT 907.45 SEC. SHORTLY AFTER SEPARATION COMMAND AFTER 180 SEC AND AGAIN AT 181.45 SEC LARGE CURRENT SURGES CONSIDERABLY EXCEEDED THE BANDWIDTH FOR A PERIOD OF 800 AND 80 MILLISECONDS RESPECTIVELY. EXCEEDING MAXIMUM BANDWIDTH INDICATES A CURRENT DRAIN IN EXCESS OF 50 AMPERES. OTHER THAN THE TWO LARGE CURRENT SURGES THE CURRENT DRAIN WAS ERRATIC AND HELD BETWEEN 20 AND 30 AMPERES UNTIL 184 SEC WHEN THE CURRENT RETURNED TO A NORMAL VALUE OF 15 AMPERES. AT APPROXIMATELY 179 SECONDS ANOTHER CURRENT SURGE WAS NOTED WHICH REACHED ABOUT 35 AMPERES FOR A DURATION OF 750 MILLISECONDS. AT THE SEPARATION SHORT THE PYRO BUS VOLTAGE INDICATED ZERO BUT ALL PYRO FUNCTIONS APPEAR TO HAVE OCCURRED AND PYRO CURRENT REMAINED AT ABOUT 9 AMPERES INDICATING A PYRO BUS VOLTAGE MONITOR FAILURE. AT THE TIME OF TELEMETRY SIGNAL LOSS AT VTS, THE ORBITAL TIMER WAS SET AT 5452 SEC [illegible] (STEP 289) IN THE RESET DISABLED POSITION, IN THE INCREASE MODE, AND RE-ENTRY DISABLED STATE. PART VI. SPACE-GROUND COMMUNICATIONS.

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[redacted]

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FROM:

6595 AEROSPACETRAC, VANDENBERG AFB, CALIF. [redacted]

TELEMETRY DATA FROM ALL LINKS WERE SATISFACTORILY RECEIVED AND RECORDED. VERLORT RADAR TRACK OF THE S-BAND BEACON WAS MAINTAINED UNTIL HORIZON FADE. PART VII. COUNTDOWN. THE COUNTDOWN WAS INITIATED AT 0825 PST ON 27 APR 1964 AND PROCEEDED # TO LIFTOFF WITH TWO HOLDS. HOLD NO. # 1 WAS IMPOSED AT T-60 MIN FROM 1963 TO 1615 PST TO FINISH REPLACING THE OXIDIZER FILL LINE THAT HAD BEEN LEAKING. HOLD NO. 2 WAS IMPOSED AT T-15 MIN FROM 1801 TO 1802 PST TO ALLOW THE PAD CREW TO RETURN TO THE PAD TO ADJUST THE PNEUMATIC REGULATORS. PART VIII. AEROSPACE GROUND EQUIPMENT (AGE). THE AGE FUNCTIONED SATISFACTORILY TO SUPPORT CHECKOUT AND LAUNCH OF THE VEHICLE WITH ONE MAJOR EXCEPTION: THE OXIDIZER FILL LINE DEVELOPED A LEAK UNDER THE METAL SHROUD. REPLACEMENT OF THE FILL LINE WAS NECESSARY, THEREBY CAUSING A HOLD IN THE COUNTDOWN. PART IX. PAD DAMAGE. PAD DAMAGE WAS NORMAL FOR A LV-2A LAUNCH AND THE PAD TURNAROUND SCHEDULE CAN BE MAINTAINED.

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